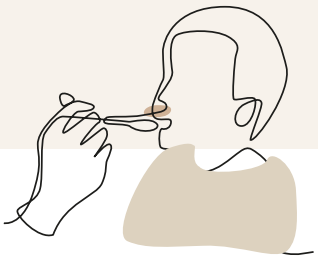
Impact Story 10:
Market Based Home Fortification: the Bangladesh Micronutrient Powder Programme

THE OPPORTUNITY

In 2019 twenty eight percent of Bangladeshi under-fives were stunted and only 34% were receiving a diet that achieved a minimum diversity of foods.[1] In 2014 one in three under 5 children in Bangladesh were found to be anaemic.[2] Addressing the prevalent problem of infant and young child malnutrition has a significant impact on mortality rates and economic growth, and this is reflected in the benefit cost-ratio of 18 derived from investing in nutrition in Bangladesh. 1 USD investment in nutrition gives a return of 16 USD.[3] Given that diet diversity will take some time, policy makers often ask, "what can be done in the shorter term to increase the nutrient intake of the most vulnerable early in their lives,"?



THE SOLUTION

In Bangladesh, BRAC one of the largest development organisations in the world, has a large network of community health workers with reach into all parts of the country. BRAC uses this network to deliver multiple micronutrient powders to address anaemia in children under 2. In addition, the Social Marketing Company (SMC), the largest Social Enterprise globally uses local service providers and entrepreneurial model to address micronutrient malnutrition using multiple micronutrient powders with complementary food.

Figure 1: Micronutrient powers sold by BRAC's community health workers

The World Health Organization (WHO) recommends home fortification of foods with multiple micronutrient powders (MNP) to improve micronutrient status and address high prevalence of anaemia among children under 2 years of age.[4]

The provision of free MNPs through the health system is not necessarily sustainable. The question was, can MNPs be sold at an affordable price such that they have a significant impact on under 2 anaemia? If this is possible, what is the cost-effectiveness of doing so? GAIN, BRAC, SMC, Renata, a Bangladeshi pharmaceuticals company, icddr,b and the Children's Investment Fund Foundation (CIFF), set out to evaluate whether such a programme could reach those who are vulnerable, whether they were impactful and whether they were good value for money compared to other routes to improved nutrition outcomes.

Figure 2: Micronutrient powers sold by SMC's community health workers

1 Multiple Indicator Cluster Survey 2019 (https://www.unicef.org/bangladesh/media/3281/file/Bangladesh%202019%20MICS%20Report_English.pdf); https://globalnutritionreport.org/resources/nutrition-profiles/asia/southern-asia/bangladesh/

2 ICDDRB, UNICEF Bangladesh, GAIN, & Institute of Public Health and Nutrition (2013) National Micronutrients Status Survey. Dhaka: GAIN.

3 https://globalnutritionreport.org/reports/2014-global-nutrition-report/

4 WHO (2011) Guideline: Use of Multiple Micronutrient Powders for Home Fortification of Foods Consumed by Infants and Children 6–23 months of Age. Geneva: World Health Organisation.

The Maternal, Infant and Young Child Nutrition (MIYCN) Home Fortification Programme was implemented in 164 Upazilas (sub-districts) & 6 urban slums in in Bangladesh (area coverage 33·3%) during July 2013–April 2018. The programme provided age-appropriate counselling on Infant and Young Child Feeding (IYCF) and home fortification to improve micronutrient intakes of 6–59 months of aged children in the rural and urban slum communities of the selected areas. BRAC's community health workers visited the households of the targeted children to provide this intervention and sell micronutrients.[5] The total number of children aged 6–59 months reached was 5,358,604 for the full programme period by BRAC and SMC.

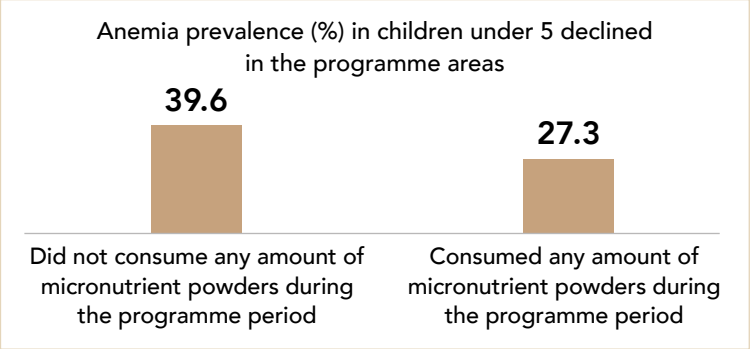
Figure 3: BRAC community health workers engaging with mothers about the micronutrient powders

THE IMPACT

The prevalence of anaemia was estimated to be 39·6% among the under-five children who did not consume any MNP during the programme period and 27·3% among those who consumed any amount of MNP in the endline period. This corresponds to the aversion of 657,778 under-five anaemia cases in the programme implementation period of the 5,358, 604 exposed population.[6]

If the micronutrient powder intervention is effective, how cost-effective is it compared to good practice benchmarks?

Considering the user costs in the programme, the cost per anaemia case averted was estimated to be $31·2 and the cost per Disability Adjusted Life Year (DALY, a combination measure of morbidity and premature mortality) averted was estimated to be $224.



The WHO consider a programme is very cost-effective if the cost per DALY averted is less the per capita GDP of the country the programme is in. At the time this was $1,516 for Bangladesh, hence this programme is very cost effective.

The programme followed a multipronged approach focusing on the supply and demand levels and simultaneously pursuing advocacy for Infant and Young Child Feeding (IYCF) with MNP through partnerships with the Directorate General of Family Planning (DGFP), National Nutrition Services (NNS) of Institute of Public Health Nutrition (IPHN) and Bangladesh National Nutrition Council (BNNC) under the Ministry of Health and Family Welfare (MoHFW). Taken together, these actions led to the impacts realized. IYCF with MNP has been incorporated in national nutrition plans and strategies, notably the National Strategy on Prevention and Control of Micronutrient Deficiencies, Bangladesh (2015-2024), Second National Plan of Action for Nutrition (NPAN2) and respective operational plans of MoHFW. Government's support for home fortification through evidence has included MNP as part of the public delivery channel in addition to market-based delivery channels.

5 This was found to be a key way of expanding coverage of MNPs. See: Sarma H, Mbuya MNN, Tariqujjaman M, Rahman M, Askari S, Khondker R, Sultana S et al. "Role of home visits by volunteer community health workers: to improve the coverage of micronutrient powders in rural Bangladesh." Public health nutrition 24, no. S1 (2021): s48-s58. https://doi.org/10.1017/S1368980020000038

6 Ahmed S, Sarma H, Hasan Z, Rahman M, Ahmed MW, Islam MA, Djimeu EW, Mbuya MNN, Ahmed T, and Khan JAM. "Cost-effectiveness of a market-based home fortification of food with micronutrient powder programme in Bangladesh." Public health nutrition 24, no. S1 (2021): s59-s70. https://doi.org/10.1017/S1368980020003602

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